

What is claimed is:

1. A fixture for expansion cards, the fixture comprising:
  - a self-adjusting unit comprising a first connecting plate adapted to be attached to a testing machine and a second connecting plate;
  - a plurality of springs disposed between the first and second connecting plate;
  - a plurality of bolts attaching the second connecting plate to the first connecting plate, the bolts movably engaging with the second connecting plate while fixedly engaging with the first connecting plate;
  - and
  - a testing unit adapted to be inserted into expansion slot connectors of a printed circuit board, the testing unit fixedly attached below the second connecting plate for receiving the expansion cards thereon, wherein when the first connecting plate is moved relative to the second connecting plate the bolt is disengaged from the second connecting plate such that the testing unit is freed to fit the expansion slot connectors.
2. The fixture as claimed in claim 1, further comprising an actuator adapted to be engaged in the testing machine, and wherein the first connecting plate is attached to the actuator.
3. The fixture as claimed in claim 1, wherein a first hole is defined in each of corners of the first connecting plate, the first hole comprises a threaded portion and a stepped portion, a second hole is defined in each of corners of the second connecting plate corresponding to a respective first hole, the second hole comprises a shoulder portion, a tapered portion, and a circular portion, and the springs are received in the stepped portions of the first holes and the shoulder portions of the second holes respectively.
4. The fixture as claimed in claim 3, wherein each of the bolts comprises a

head portion, a rod portion, and a threaded end portion, the head portion comprises a tapered surface, the head portion is movably received in the tapered portion of a corresponding second hole, and the threaded end portion is fixedly engaged in the threaded portion of a corresponding first hole.

5. The fixture as claimed in claim 1, wherein the testing unit comprises a bracket and at least one transition card.
6. The fixture as claimed in claim 5, wherein the bracket of the testing unit comprises a horizontal plate and a vertical plate, the horizontal plate is attached to the second connecting plate, and the vertical plate comprises a connecting portion and a fixing portion.
7. The fixture as claimed in claim 6, wherein the at least one transition card comprises an end portion and a printed circuit board, the end portion defines a slot therein adapted for receiving the test card, and the printed circuit board is fixed to the fixing portion of the bracket of the testing unit.
8. The fixture as claimed in claim 7, wherein the testing unit further comprises a first fixing bar and a second fixing bar, the printed circuit board of the at least one transition card is arranged between the first and second fixing bar and the fixing portion of the bracket, and a plurality of screws is provided to connect the first and second fixing bars.
9. A testing machine for printed circuit boards, comprising:
  - a movable board;
  - a self-adjusting unit actuated by the movable board, the self-adjusting unit comprising first and second connecting plates, a plurality of resilient members arranged between the first and second connecting plates, and a plurality of bolts movably connecting the first and second connecting plates;

a base adapted for supporting a printed circuit board thereon;  
a testing unit attached to the second connecting plate of the self-adjusting unit and adapted to insert into expansion slot connectors of the printed circuit board; and  
a controller moving the movable board relative to the base;  
wherein when the controller moves the movable board toward the base, the self-adjusting unit is capable of freely adjusting the position of the second connecting plate with respect to the first connecting plate for ensuring the correct insertion of the testing unit into expansion slot connectors of the printed circuit board.

10. The testing machine as claimed in claim 9, wherein the self-adjusting unit further comprises an actuator fixed to the movable board, the first connecting plate is attached to the actuator, and the controller controls the actuator to move the testing unit for testing the printed circuit board.

11. The testing machine as claimed in claim 10, wherein a plurality of first holes is defined in the first connecting plate, each of the first holes comprises a threaded portion and a stepped portion, the stepped portion defines a shoulder therearound, a plurality of second holes is defined in the second connecting plate corresponding to the first holes, each of the second holes comprises a shoulder portion, a tapered portion, and a circular portion, the shoulder portion defines a shoulder therearound, and opposite ends of each of the resilient members engage with a corresponding shoulder of the first hole and a corresponding shoulder of the second hole respectively.

12. The testing machine as claimed in claim 11, wherein each of the bolts comprises a head portion, a rod portion, and a threaded end portion, the head portion comprises a tapered surface, the head portion is movably received in the tapered portion of a corresponding second hole, and the

threaded end portion is fixedly engaged in the threaded portion of a corresponding first hole.

13. The testing machine as claimed in claim 12, wherein the resilient member is a coil spring.

14. The testing machine as claimed in claim 9, wherein the testing unit comprises a bracket and at least one transition card for being inserted into expansion slot connectors of the printed circuit board.

15. The testing machine as claimed in claim 14, wherein the at least one transition card comprises an end portion and a printed circuit board, and the end portion defines a slot therein adapted for receiving a test card.

16. A testing machine assembly comprising:

a printed circuit board having at least one slot connector thereon;

a self-adjusting unit including a first connecting plate and a second connecting plate located below and movable relative to the first connecting plate along a vertical direction;

at least one spring compressibly located between said first connecting plate and said second connecting plate;

at least one bolt including one end fastened to one of said first connecting plate and said second connecting plate, and the other end moveably engaged with the other of said first connecting plate and said second connecting plate;

a testing unit attached to the underside of the second connecting plate and retainably receiving therein a tested card which is electrically connected to said at least slot connector; wherein

said tested card is immovable relative to the second connecting plate while being moveable relative to the first connecting plate when the spring is deformed from a relaxed manner to a compressed manner.

17. The assembly as claimed in claim 16, wherein said second connecting

plate is moveable relative to the first connecting plate in both said vertical direction and other horizontal directions perpendicular to said vertical direction, when said spring is deformed from the relaxed manner to the compressed manner.

18. The assembly as claimed in claim 16, wherein said testing unit includes at least one transition card with one end receiving said tested card and the other end received in said at least slot connector for electrical connecting said test card to the printed circuit board.
19. The assembly as claimed in claim 16, wherein said at least one spring coaxially surrounds said at least one bolt.
20. The assembly as claimed in claim 16, wherein said one end of the bolt is fastened to the first connecting plate.